

## A new species and range extension of *Ponderinella* (Gastropoda, Tornidae) in West Africa

### Una nueva especie y extensión del área de *Ponderinella* (Gastropoda, Tornidae) en África occidental

Emilio ROLÁN\* and Federico RUBIO\*\*

Recibido el 12-III-2012. Aceptado el 1-V-2012

#### ABSTRACT

Two species with similar shell characters collected on the Gabon coast are studied. One of them is here described while the other was already described in the genus *Notosetia* from the Ghana coast. The generic assignation is discussed concluding that tentatively it is better that both (close to *P. minutissima*) should be placed in the genus *Ponderinella*.

#### RESUMEN

Se estudian dos especies con concha de caracteres similares recolectadas en la costa de Gabón. Una de ellas es nueva para la ciencia y se describe aquí, y otra ya había sido descrita en el género *Notosetia* en la costa de Ghana. Se discute la asignación genérica concluyendo con que tentativamente es mejor que las dos (próximas a *P. minutissima*) queden situadas en el género *Ponderinella*.

#### INTRODUCTION

The genus *Notosetia* Laseron, 1954 was introduced for species of New Zealand, designating species with simple, smooth and rather featureless shells (POWELL, 1979). PONDER (1985) placed this genus as synonym of *Putilla* A. Adams, 1867, based on species from Japan, also smooth but very solid. He also considered *Wanganella* Laseron, 1954 with similar doubts as to its being a synonym. Some species figured by PONDER (1985) and by POWELL (1979) show minute shells, which are smooth, with very scarce spiral sculpture, a small umbilicus, rounded by several cords, simple aperture and a sharp external lip.

ROLÁN & GUBBIOLI (2000) and ROLÁN & RYALL (2000) described from

Mauritania and Ghana respectively two species with these similar characters: white, smooth, brilliant, small umbilicus, scarce spiral microsculpture, and one of them with a subsutural canal. They were placed in *Wanganella* and *Notosetia* lacking better genera for these characters. In one of them (*Wanganella ruedai*) the operculum and radula were examined and they show affinity to species of the familia Skeneidae. The reasons for employing the genus *Notosetia* are given in the original description, the main one being the fact that the genus *Putilla* could be a synonym of *Paludinella* Pfeiffer, 1841.

The genus *Elachisina* Dall, 1918 is different having shells usually more

\* Museo de Historia Natural, Campus Universitario Sur, Vista Alegre, 15782, Santiago de Compostela

\*\* c/Pintor Ribera, 4-16<sup>a</sup>, 46930 Quart de Poblet (Valencia)

fragile, without peripheral angulation, constant spiral sculpture of cords or grooves, and typical umbilicus with a straight cord.

In a recent trip of one of the authors (ER) sediments from Gabon were collected. When examined there appeared shells of two species agreeing with the above mentioned characters. One of them seems to be identical to *Notosetia ghanensis* Rolán & Ryall, 2000, being the second record for this species after its description and representing a new record for Gabon. The second species is new and is described in the present work.

During the study of this material, new generic possibilities were evaluated. The most acceptable was *Ponderinella* Marshall, 1988. This genus is based on minute shells, which are depressed-turbiniform, thin, glassy, smooth, and umbilicate. Protoconch of about 1.3 whorls; teleoconch with convex whorls, base and umbilical rim angulate. In ROLÁN & RUBIO (2002), this

genus was employed for some African species, some of them (*Ponderinella skeneoides* and *P. minutissima*) being very close to the species we have found in Gabon, even with a similar protoconch with microsculpture in the embryonic shell and microsculpture of minute tubercles on the teleoconch. For these reasons, we decided (in the absence of soft parts of this material) to place the species previously considered a *Notosetia* and the new taxon in the genus *Ponderinella*, considering that both of them and *P. minutissima* must be congeneric.

For the placement of these species we have considered they were not a skeneid because the species of this group have usually a paucispiral protoconch with one or a little more whorls and direct development. In opposition, the Tornidae have multispiral planktotrophic protoconchs, with separation between protoconch I and II, as in the *Ponderinella* species studied from West Africa.

## SYSTEMATIC PART

### Family TORNIIDAE Sacco, 1896 Genus *Ponderinella* Marshall, 1988

Type species: *Ponderinella lignicola* Marshall, 1988.

#### *Ponderinella ghanensis* (Rolán & Ryall, 2000) new. comb. (Figs. 1-6)

*Notosetia ghanensis* Rolán & Ryall, 2000: 39-41, figs. 1-7.

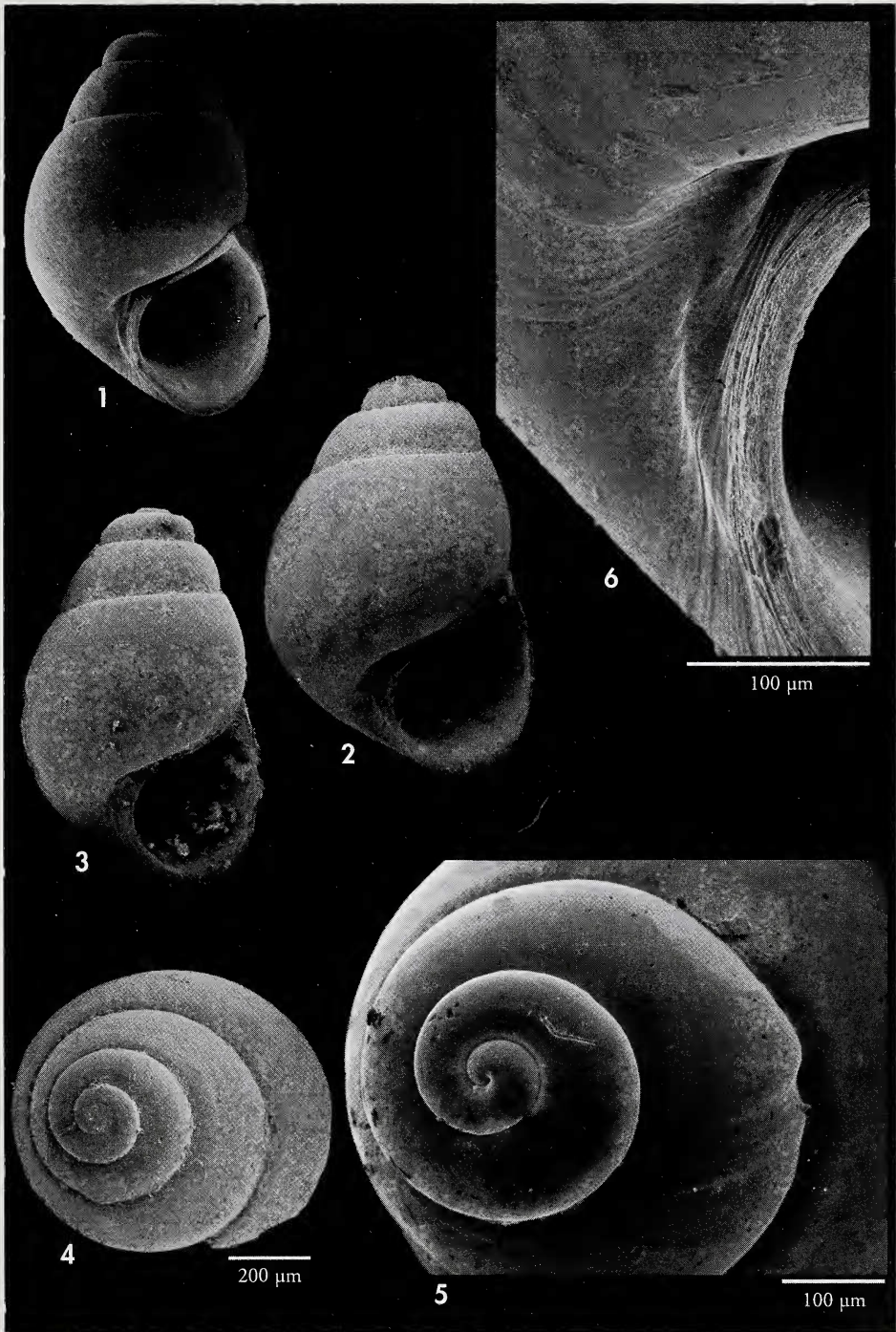
**Material studied:** Ghana: Holotype and paratypes (see Rolán & Ryall, 2000) . Gabon: 7 shells in intertidal sediments, Cape Esterias; 2 s in sediments, Cape Santa Clara (both collecting in September 2011).

**Description:** See ROLÁN & RYALL (2000). The protoconch was described as having only  $\frac{3}{4}$  of whorl. But this is only the embryonic part. The complete larval is about 2  $\frac{1}{2}$  smooth whorls. The protoconch has a diameter of about 440  $\mu\text{m}$  and finishes in a thickened separation with the teleoconch. The latter has about 1  $\frac{3}{4}$  whorls and has on its first whorl fine spiral oblique zigzag lines, which disappear on the second and the last whorl, except for some fragments near the umbilicus. On the periphery of

the last whorl there is a slight angulation in the level of contact with the external lip. Aperture ovoid, slightly angled; external lip sharp at the base; columella very arched, which does not close the umbilicus, reduced to a fissure, delimited by a strong cord.

**Distribution:** Only known from Ghana and now from Gabon.

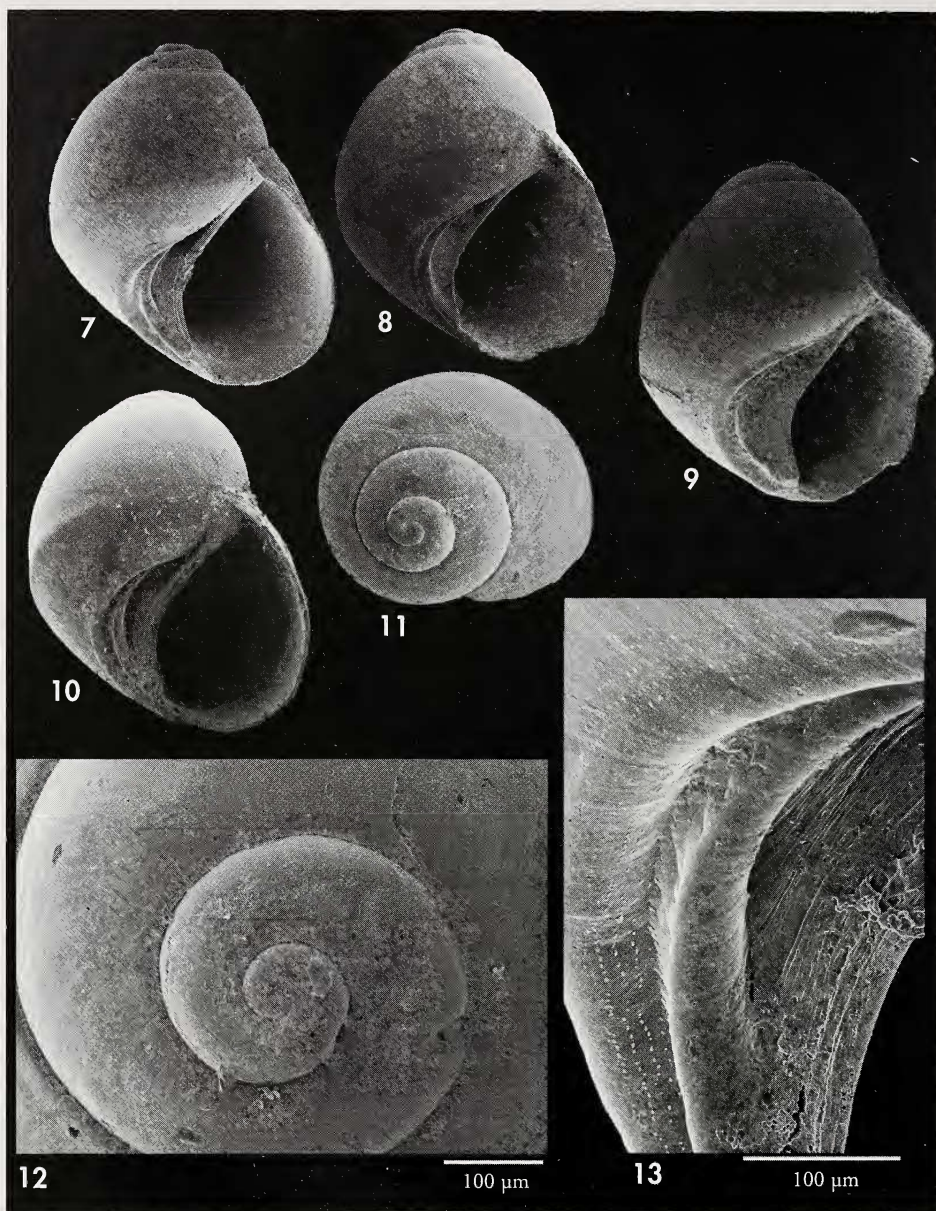
**Remarks:** The material studied from Gabon is very similar to that of the original description.



Figures 1-6. *Ponderinella ghanensis* (Rolán & Ryall, 2000). 1-3: shells, 1.1, 1.2, 1.1 mm, Cape Esterias, Gabón (MHNS); 4: shell, apical view; 5: protoconch; 6: details of the aperture.

Figuras 1-6. *Ponderinella ghanensis* (Rolán y Ryall, 2000). 1-3: conchas, 1,1; 1,2 y 1,1 mm, Cabo Esterias, Gabón (MHNS) 4: concha, vista apical; 5: protoconcha, 6: detalles de la abertura.





Figures 7-13. *Ponderinella gabonensis* spec. nov. 7: holotype, 1.25 mm (MNHN); 8-11: paratypes, 1.3, 1.27, 1.3, 1.1 mm (MHNS); 12: protoconch; 13: detail of the umbilicus.

*Figuras 7-13. Ponderinella gabonensis spec. nov. 7: holotipo, 1,25 mm (MNHN); 8-11: paratipos, 1,3; 1,27; 1,3 y 1,1 mm (MHNS); 12: protoconcha; 13: detalle del ombligo.*

*Ponderinella gabonensis* spec. nov. (Figs. 7-13)

**Type material:** Holotype in Museum National d'Histoire Naturelle (MNHN, 25140) (Fig. 7). Paratypes: Museo Nacional de Ciencias Naturales (MNCN), Museo de Historia Natural de Santiago de Compostela (MHNS) (12 s, 100571).

**Type locality:** Cape Esterias, Gabón, in intertidal sediments.

**Etymology:** The specific epithet is from the country where the species was found.

**Description:** Shell of small size, a little pyriform entirely smooth, not strong, with a spire formed by 3  $\frac{3}{4}$  whorls separated by a deep suture. Protoconch with 1  $\frac{3}{4}$  whorls of smooth surface except its embryonic part which is slightly rough; largest diameter of about 320  $\mu\text{m}$ . Teleoconch formed by 2 whorls, which are totally smooth except fine growth lines and small microtubercles aligned spirally in the basal area and the external umbilical cord. In the last whorl there is a distinct periferal angle. Aperture ovoid, angled on its upper part; external lip sharp at the border, not reflected at the base, forming two small interruptions at the contact with the two periumbilical cords. The umbilicus is limited by these two cords, having in the inner part strong growth lines.

**Dimensions:** Holotype height is 1.25 mm, width 1.0 mm; maximum height paratypes is 1.3 mm.

**Distribution:** Only known from Gabón.

**Remarks:** The only species with some similarity in shell characters are *Ponderinella ghanensis* (Rolán & Ryall, 2000) and *Ponderinella minutissima* Rolán & Rubio, 2002.

*Ponderinella gabonensis* spec. nov. can be distinguished from *P. ghanensis* by its more evident peripheral angulation, the wider umbilicus, delimited by two cords, lack of ornamentation on first teleoconch whorls, and having fine microtubercles on the basal and periumbilical cords.

Also the new species has some similarity to *P. minutissima*, mainly in their general aspect, ornamentation and protoconch. But the new species has a more marked peripheral angulation and the umbilicus has two spiral cords.

## ACKNOWLEDGEMENTS

To Jesús Méndez of the Centro de Apoyo Científico y Tecnológico a la

Investigación (CACTI) who made the SEM photographs.

## BIBLIOGRAPHY

- PONDER W.F. 1985. A review of the Genera of the Rissoidae (Mollusca: Mesogastropoda: Rissoacea). *Records of the Australian Museum*, suppl. 4: 1-221.
- POWELL A.W.B. 1979. *New Zealand Mollusca*. Marine, land and freshwater shells. Collins. Auckland, Sydney, London. 500 pp.
- ROLÁN E. & GUBBIOLI F. 2000. A new species of the genus *Wanganella* (Mollusca, Skeneidae) from Mauritania. *Argonauta*, 14 (2): 5-8.
- ROLÁN E. & RUBIO F. 2002. The family Tornidae (Gastropoda, Rissoidae) in the East Atlantic. *Supplement of Reseñas Malacológicas-SEM*: 1-98.
- ROLAN E. & RYALL P. 2000. A new species of the genus *Notosetia* (Molluscs, Skeneidae) from Ghana. *Argonauta*, 14 (2): 39-41.